REMARKS

Claims 1 and 4-18 are pending in this application. Claims 4-6 are canceled herein without prejudice. Claims 1, 7-14 and 16-18 are amended herein for clarity to more particularly define the invention. Support for these new claims is found in the language of the original claims and throughout the specification. No new matter is added by these amendments and their entry and consideration are respectfully requested. In light of these amendments and the following remarks, applicants respectfully request reconsideration of this application and allowance of the pending claims to issue.

I. Request for withdrawal of finality of Office Action

Applicants respectfully request that the finality of the present Office Action be withdrawn on the basis that it contains an improper final rejection of the pending claims. Specifically, claims 1 and 4-18 are rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Baszczynski et al. publication no. 2004/0005713. This publication was not previously disclosed by applicants nor previously cited by the Examiner in this application. Thus, the Office Action contains a final rejection based on a reference that is not of record in the present application, which is an improper basis for finality of an Office Action. See MPEP § 706.07(a). Applicants therefore request that the finality of this Action be withdrawn.

II. Drawings

The Office Action states that Figure 8 is objected to on the basis that it fails to show any details as described in the specification. Specifically, the Office Action states that the image is a photograph of a Southern blot and arrows indicate bands but that allegedly no bands are visible.

Included herewith is a substitute Figure 8 with clearly visible bands adjacent to the arrows in Figure 8. Thus, this objection has been mooted and applicants respectfully request its withdrawal.

III. Rejection under 35 U.S.C. § 112, second paragraph

The Office Action states that claims 5, 6 and 13 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite.

A. The Office Action states that claims 5 and 6 are allegedly indefinite in that the metes and bounds of the phrase "said nucleotide of interest" are unclear.

Claims 5 and 6 are canceled herein without prejudice, thereby mooting this rejection and applicants respectfully request its withdrawal.

B. The Office Action states that claim 13 is allegedly vague and indefinite in that the metes and bounds of "transforming step is carried out *in vitro* on a population of cells, a first population of which" are unclear.

Claim 13 as presented herein recites the method of claim 1,-carried out *in vitro* on a population of cells, whereby a first subpopulation of cells in said population of cells is transformed with said *Agrobacterium* transformation vector and a second subpopulation of cells of said population of cells is not transformed with said *Agrobacterium* transformation vector and said transforming step is followed by the steps of: (c) selecting at least one transformed cell from said first subpopulation of cells; and then (d) regenerating a plant from said transformed cell of step (c). Support for the amendments to claim 13 can be found in the language of the original claim.

As presented herein, claim 13 describes a method whereby some but not all cells of a population are transformed with the *Agrobacterium* transformation vector and such transformed cells are selected for and used to regenerate a plant. Thus, claim 13 is clear and definite and applicants respectfully request the withdrawal of this rejection.

IV. Rejection under 35 U.S.C. § 102(e)

The Office Action states that claims 1 and 4-18 are rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Baszczynski et al. publication no. 2004/0005713. Specifically, the Office Action states that Baszczynski et al. teaches a method for the targeted insertion of a nucleotide of interest into a specific chromosomal site with a plant cell using a plant cell with a target site flanked by a site recognized by a site-specific recombinase in paragraph 27 and further teaches that the plant cell is transformed with an *Agrobacterium* T-DNA carrying a nucleotide sequence of interest flanked by a pair of identical recombination sites that correspond to the recombination site on the target site in paragraph 10. The Office Action goes on to state that Baszczynski et al. teaches that the T-DNA forms an excision circle in figure 2 and in paragraph 18 and teaches recombination with the recombination at the target site on the chromosome in figure 3, in addition to teaching in paragraph 27 that the target site can be flanked on either side by a pair of recombination sites. The Office Action further states that Baszczynski et al. teaches that DNA is stably introduced into the cell via Agrobacterium-mediated transformation in paragraphs 64 and 65, that the recombinase is an integrase such as FLP and the recombination sites are FRT in paragraphs 42 and 38, and that the plant is a dicot in paragraph 72. Continuing on, the Office Action states that Baszczynski et al. teaches Agrobacterium-mediated transformation methods that involve transformation of the meristem followed by selection with antibiotics in paragraphs 74, 75 and 83 and that the cells are also transformed with recombinase, resulting in plant cells, plants, seed and pollen in paragraphs 68 and 72.

Case law very specifically holds and the M.P.E.P. states that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Furthermore, the identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Additionally, anticipation under 35 U.S.C. § 102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention. *Apple Computer Inc. v. Articulate Systems Inc.* 57 USPQ2d 1057, 1061 (Fed. Cir. 2000).

The present invention is not anticipated by the Baszczynski et al. publication. Specifically, the present invention provides a method for the targeted insertion of a nucleotide of interest into a specific chromosomal site within a plant cell, said method comprising the steps of: (a) providing a plant cell having a heterologous target site on a chromosome thereof, wherein said target site is flanked on one side by a single recombination site, which single recombination site is recognized by a site-specific recombinase enzyme; and then (b) transforming said plant cell with an *Agrobacterium* transformation vector carrying a nucleotide sequence of interest, wherein said nucleotide sequence of interest is flanked by a pair of identical recombination sites, one on each side thereof, that correspond to the single recombination site of said target site, so that said nucleotide of interest *(i)* is randomly inserted into a chromosome of said plant cell, *(ii)* generates an excision circle therefrom, and then *(iii)* is inserted into said chromosome at said target site; wherein said transforming step is carried out in the presence of a site-specific recombinase effective to carry out recombination at said recombination site and insert said nucleotide of interest into said chromosome at said target site.

In contrast, Baszczynski et al. describes methods whereby a DNA of interest is inserted into a plant genome by site-specific recombination between two different target sites flanking the DNA of interest and two different target sites in the genome that match the target sites flanking the DNA of interest (see, e.g., paragraph 0027 and figures 2 and 3). Thus, the method of Baszczynski et al. is distinguished from the claimed invention on the basis that 1) in the methods of Baszczynski et al., there must be two non-identical target sites present in the plant genome, whereas in the present invention, only a single target site is present; 2) in the methods of Baszczynski et al., the target sites flanking the DNA of interest must be non-identical in order to recombine with the two non-identical target sites in the plant genome, whereas in the present invention, the target sites flanking the DNA of interest are identical to one another and to the single target site in the plant chromosome, and 3) the end result of the recombination events described in Baszczynski et al. is a DNA of interest inserted into a plant genome between two non-identical target sites, whereas in the present invention, the end result is a DNA of interest inserted into a plant chromosome between two identical target sites.

Applicants also point out that the constructs shown in the diagram at the top of both figures 1 and 2 of Baszczynski et al. show two identical recombination sites , but that according to the teachings of Baszczynski et al., these are not the constructs that are inserted into the plant genome. Rather, as described in paragraph 0010 of Baszczynski et al., the circular viral replicon shown in figure 1 (which contains a single target site on the replicon and not two identical target sites as required on the constructs of the present invention) is produced as a result of transformation of a plant cell with a viral replicon flanked by directly repeated target sites and subsequent recombinase-directed excision. Once in the cell, according to the teachings of Baszczynski et al, the circular viral replicon of figure 1 is only described as replicating to high copy number and Baszcsynski et al. does not describe any method whereby this circular viral replicon, comprising a single recombinase site, is inserted into a specific chromosomal site within a plant cell by site-specific recombination with a heterologous target site on the chromosome. Neither figure 1 nor paragraph 0010 of Baszczynski et al. make any mention of a target site in plant cell genome. The end result of the integration of this construct (assuming *arguendo* that the circular viral replicon of figure 1 is inserted into the plant genome, which is neither taught or suggested) would be a plant genome with an inserted DNA flanked on one side by a recombinase site, which is not the end result of the claimed invention, which is an inserted DNA flanked on either side by identical recombinase sites.

Furthermore, the circular plasmid of figure 2 as shown in Baszczynski et al. contains two non-identical target sites, in contrast to constructs of the present invention that contain two identical target sites. The end result of the integration of this construct would be a plant genome with an inserted DNA flanked on either side by non-identical recombinase sites. This is also not the end result of the claimed invention, which is an inserted DNA flanked on either side by identical recombinase sites.

Thus, for at least the reasons set forth above, the claimed invention is not anticipated by the Baszczynski et al. publication and applicants respectfully request the withdrawal of this rejection.

In view of the foregoing amendments and remarks, applicant respectfully requests that all outstanding rejections to the claims be withdrawn and that a Notice of Allowance be issued in

due course. The Examiner is invited and encouraged to contact the undersigned directly if such contact will expedite the prosecution of the pending claims to issue. In the event that the Examiner fails to find allowable subject matter upon review of the claims as presented herein, applicants respectfully request a telephone interview to include the Examiner, the Examiner's supervisor and a Practice Specialist, prior to the issuance of any further actions for this application.

No fee is believed due with this response. However, the Commissioner is authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-0220.

Respectfully submitted,

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Evelyn Casey